

## **Sustainability Base Facility Solid Oxide Fuel Cell**

### **Facts about Sustainability Base (SB):**

1. SB will be approximately 50,000 sq. ft.
2. SB will be partially powered by a roof mounted solar photovoltaic system.
3. SB will use a heat pump for interior space heating.
4. SB's energy intensity (energy consumption per sq. ft.) will be much lower than a typical office building.

### **Fuel Cell Description and Requirements:**

1. Minimum of 150 kW and maximum 200 kW output at 480 V AC.
2. System plus service clearances must fit within a 550-square foot area due to site space constraints.
3. Solution must be all electric as the facility cannot utilize any waste heat generated.
4. Minimum of 50% electric efficiency (LHV net AC)
5. In alignment with the goals of Sustainability Base, system should not require makeup or cooling water during normal system operation.
6. System must be modular such that no single failure (except for fuel supply) shuts the system down due to reliability requirements.
7. System should be installed and ready for operation by December 31, 2010.

### **Questions to be answered in the RFI response:**

1. Do you believe your fuel cell system meets the definition of "Commercial item" per FAR 2.101? If so, how does it specifically meet the definition?
2. What is the acoustic noise level?
3. What long-term maintenance service do you provide?
4. What is your experience in manufacturing, installing, and operating SOFCs?
5. What is the expected system reliability rate?